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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,865

07/28/2003

Nikola Cuk

14407

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7590

12/27/2005

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EXAMINER

PHAM, LAM P

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/627,865	Applicant(s) CUK, NIKOLA	
	Examiner Lam P. Pham	Art Unit 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/15/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12, 17-25, 30-35, 39-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Panaro (US 4661807).

Regards claim 1, Panaro disclose a fault condition monitoring apparatus for use with a fuse cutout (fuse holder), the apparatus comprising:

a housing (fuse 12) operable to be supported by the fuse cutout, said housing having first and second contacts (16, 18) operable to make electrical contact with fuse contacts (24, 26) on said fuse cutout when said housing is supported by said fuse cutout;

a current sensor (40) connected to said first and second contacts; and

a signaling device (LED or LCD 65) coupled to said current sensor and operable to cause a signal to be produced when current sensed by said current sensor meets a criterion as seen in Figures 1-7; col. 2, lines 61-68; col. 3, lines 1-68; col. 4, lines 1-68; col. 5, lines 1-56.

However, Panaro fails to disclose said current sensor located inside said housing and connected to said first and second contacts.

It would have been obvious to one of ordinary skilled in the art to realize that said current sensor would be located anywhere inside said fuse holder (cutout) including inside said fuse housing and still able to sense current passing through the fuse or fuse holder. Thus, it would have been obvious to have the current sensor inside said housing as a matter of design choice.

Regards claim 2, Panaro disclose said housing (12) has a profile of a fuse operable to be held by the fuse cutout (fuse holder) as seen in Figure 1; col. 2, lines 61-68; col. 3, lines 1-14.

Regards claim 3, Panaro discloses said housing has first and second opposite ends and said first and second contacts (16, 18) are on said first and second opposite ends as seen in Figure 1; col. 2, lines 61-68; col. 3, lines 1-14.

Regards claim 4, Panaro discloses said first and second contacts are operable to mechanically mate with said fuse contacts (24, 26) on the fuse cutout as seen in Figure 1; col. 2, lines 61-68; col. 3, lines 1-14.

Regard claim5, Panaro discloses said first and second contacts are operable to mechanically mate with line connectors (28, 30) on the fuse cutout as seen in Figure 1; col. 2, lines 61-68; col. 3, lines 1-14.

Regards claim 6, Panaro discloses said first and second contacts (16, 18) include first and second supports (24, 26) respectively, said first and second supports being operable to cooperate with respective line connectors (28, 30) on the fuse cutout to support said housing as seen in Figure 1; col. 2, lines 61-68; col. 3, lines 1-14.

Regard claim 7, Panaro fails to disclose at least one of said first and second contacts includes a pull-ring. It has been obvious to realize that a pull-ring is one type of contacts among others. Thus, it would have been obvious to one of ordinary skilled in the art to have the contacts include a pull-ring as a matter of design choice.

Regard claims 8-9, Panaro discloses said current sensor is Hall effect sensor as seen in col. 3, lines 55-62, but fails to disclose said sensor includes a voltage divider of capacitor network. It has been well known in the art to use a voltage-divider of resistor network or capacitor network in current sensing circuit, thus, it would have been obvious to one of ordinary skilled in the art use a voltage divider of capacitor network for sensing current.

Regard claim 10, Panaro disclose said signaling device (LCD or LED 65) as seen in Figure 6 includes a visual indicator operable to produce a visual signal operable to be seen from outside said housing.

Regard claim 11, Panaro discloses said visual indicator includes a light emitting device as seen in col. 5, lines 50-56.

Regard claim 12, Panaro disclose further comprising a transparent cover disposed at an end of said housing, for covering said light emitting device, while permitting light from said light emitting device to be viewed through said transparent cover as seen in Figure 6; col. 5, lines 50-56.

Regard claim 17, Panaro discloses a method of monitoring for a fault condition in a system comprising a fuse cutout connected between a supply conductor and an electrical device, the method comprising:

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connecting to the fuse cutout (fuse holder) a housing (base) containing a current sensor (40);

actuating a signaling device (LED 65) when current sensed by said current sensor meets a criterion as seen in Figures 1-7; col. 2, lines 61-68; col. 3, lines 1-68; col. 4, lines 1-68; col. 5, lines 1-56.

However, Panaro fails to disclose the current sensor is electrically connected to fuse contacts on said fuse cutout.

It would have been obvious to one of ordinary skilled in the art to realize that said current sensor would be located anywhere inside said fuse holder (cutout) including inside said housing and still able to sense current passing through the fuse or fuse holder. Thus, it would have been obvious to have the current sensor inside said housing as a matter of design choice.

Regard claim 18, Panaro discloses an apparatus for monitoring for a fault condition in a system comprising a supply conductor and an electrical device, the apparatus comprising the fault condition monitoring apparatus (referring to claim 1) and further comprising a fuse cutout having fuse contacts connected between the supply conductor and the electrical device as seen in Figure 1.

Regard claim 19, Panaro disclose further comprising a fuse connected between said fuse contacts as seen in claim 1.

Regard claim 20, Panaro discloses fuse cutout apparatus comprising:

an insulator (fuse insulating body 14);

first and second fuse contacts (16, 18) on opposite ends of said insulator

respectively, for holding a fuse;
a current sensor (40) inside said fuse cutout (fuse holder); and
a signaling device (LCD or LED 65) coupled to said current sensor and operable to cause a signal to be produced when current sensed by said current sensor meets a criterion as seen in Figures 1-7; col. 2, lines 61-68; col. 3, lines 1-68; col. 4, lines 1-68; col. 5, lines 1-56.

However, Panaro fails to disclose said current sensor inside said insulator and connected to said first and second fuse contacts.

It would have been obvious to one of ordinary skilled in the art to realize that said current sensor would be located anywhere inside said fuse holder (cutout) including inside said fuse housing or insulator and still able to sense current passing through the fuse or fuse holder. Thus, it would have been obvious to have the current sensor inside said insulator as a matter of design choice.

Regards claims 21-22, Panaro discloses said current sensor is Hall effect sensor as seen in col. 3, lines 55-62, but fails to disclose said sensor includes a voltage divider of capacitor network. It has been well known in the art to use a voltage-divider of resistor network or capacitor network in current sensing circuit, thus, it would have been obvious to one of ordinary skilled in the art use a voltage divider of capacitor network for sensing current.

Regards claims 23-24, Panaro discloses said signaling device includes a visual indicator including an LED operable to produce a visual signal operable to be seen from outside said insulator as seen in Figure 6; col. 5, lines 50-56.

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Regard claim 25, Panaro discloses a transparent cover disposed at an end of said insulator, for covering said light emitting device, while permitting light from said light emitting device to be viewed through said transparent cover as seen in Figure 6; col. 5, lines 50-56.

Regard claim 30, Panaro discloses further comprising a fuse (12) connected between said fuse contacts (16, 18) as seen in Figure 1.

Regard claim 31, Panaro discloses a method of monitoring for a fault condition in a system comprising a supply conductor and an electrical device, the method comprising:

connecting, between said supply conductor and said electrical device, a fuse cutout (fuse holder) having fuse contacts (24, 26), an insulator (14) and a current sensing circuit connected between said fuse contacts and located inside said insulator; and

actuating a signaling device (LED 65) coupled to said current sensing device when current sensed by said current sensing circuit meets a criterion as seen in Figures 1-7; col. 2, lines 61-68; col. 3, lines 1-68; col. 4, lines 1-68; col. 5, lines 1-56.

However, Panaro fails to disclose said current sensing circuit located inside said insulator and connected between fuse contacts.

It would have been obvious to one of ordinary skilled in the art to realize that said current sensing would be located anywhere inside said fuse holder (cutout) including inside said fuse body or insulator and still able to sense current passing through the

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fuse or fuse holder. Thus, it would have been obvious to have the current sensor inside said insulator as a matter of design choice.

Regard claim 32, referring to claim 1 for explanation.

Regard claim 33, referring to claim 8 for explanation.

Regard claim 34, referring to claim 10 for explanation.

Regard claim 35, referring to claim 11 for explanation.

Regard claim 39, referring to claim 20 for explanation.

Regards claim 40, referring to claim 21 for explanation.

Regard claim 41, referring to claim 23 for explanation.

Regard claim 42, referring to claim 24 for explanation.

3. Claims 13, 26, 36, 43 rejected under 35 U.S.C. 103(a) as being unpatentable over Panaro (US 4661807) in view of Hatton (US 5739737).

Regard claim 13, Panaro fails to disclose said signaling device includes an audible indicator operable to produce an audible signal. It has been well known in the art of alarm indication to have both audible, visual indicators located locally or remotely for indicating a sensed condition.

Hatton in "Blown fuse indicator" teaches of using a both visual (LED 40) and audible (audio alarm) locally and remotely to indicate a blown fuse on a fuse box as seen in col. 4, lines 18-67; col. 5, lines 1-67; col. 6, lines 1-67. Thus, it would have been obvious to one of ordinary skilled in the art to have the signaling device includes an audible indicator.

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In view of Hatton' s teaching, it would have been obvious to one of ordinary skilled in the art to have the signaling device includes an audible indicator.

Regard claim 26, Panaro fails to disclose said signaling device includes an audible indicator operable to produce an audible signal. It has been well known in the art of alarm indication to have both audible, visual indicators located locally or remotely for indicating a sensed condition.

Hatton in "Blown fuse indicator" teaches of using a both visual (LED 40) and audible (audio alarm) locally and remotely to indicate a blown fuse on a fuse box as seen in col. 4, lines 18-67; col. 5, lines 1-67; col. 6, lines 1-67. Thus, it would have been obvious to one of ordinary skilled in the art to have the signaling device includes an audible indicator.

In view of Hatton' s teaching, it would have been obvious to one of ordinary skilled in the art to have the signaling device includes an audible indicator.

Regard claim 36, referring to claim 13 for explanation.

Regards claim 43, referring to claim 26 for explanation.

4. Claims 14-16, 27-29, 37-38, 44-45 rejected under 35 U.S.C. 103(a) as being unpatentable over Panaro in view of Tsui (US 6597291).

Regard claim 14, Panaro fails to disclose said signaling device includes a transmitter operable to produce a control signal for reception by a remotely located annunciator. It has been well known in the art of alarm indication to have both audible, visual indicators located locally or remotely via wireless transmission/reception for indicating a sensed condition.

Tsui in "Garage door monitoring system" teaches of using a transmitter (120) to produce a control signal for reception by a remotely located indicators comprising LED and buzzer to indicate a detected position of the garage as seen in Figures 1; col. 3, lines 7-44.

In view of Tsui 's teaching, it would have been obvious to one of ordinary skilled in the art to have said signaling device includes a transmitter operable to produce a control signal for reception by a remotely located annunciator.

Regard claim 15, Tsui teaches of a remotely located annunciator (140, 160) for receiving said control signal from said signaling device as seen in Figures 1; col. 3, lines 7-44.

Regards claim 16, Tsui teaches said remotely controlled annunciator includes at least one of an audio (buzzer) and visual (LED) indicator as seen in Figures 1; col. 3, lines 7-44.

Regard claim 27, Panaro fails to disclose said signaling device includes a transmitter operable to produce a control signal for reception by a remotely located annunciator. It has been well known in the art of alarm indication to have both audible, visual indicators located locally or remotely via wireless transmission/reception for indicating a sensed condition.

Tsui in "Garage door monitoring system" teaches of using a transmitter (120) to produce a control signal for reception by a remotely located indicators comprising LED and buzzer to indicate a detected position of the garage as seen in Figures 1; col. 3, lines 7-44.

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In view of Tsui's teaching, it would have been obvious to one of ordinary skill in the art to have said signaling device includes a transmitter operable to produce a control signal for reception by a remotely located annunciator.

Regards claim 28, Tsui teaches of a remotely located annunciator (140, 160) for receiving said control signal from said signaling device as seen in Figures 1; col. 3, lines 7-44.

Regard claim 29, Tsui teaches said remotely controlled annunciator includes at least one of an audio (buzzer) and visual (LED) indicator as seen in Figures 1; col. 3, lines 7-44.

Regard claim 37, referring to claim 14 for explanation.

Regard claim 38, referring to claim 15 for explanation.

Regards claim 44, referring to claim 27 for explanation.

Regards claim 45, referring to claim 28 for explanation.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yenisey (US 5343192) disclose a fuse or circuit breaker status indicator.

Ando et al. (US 5347418) disclose a fuse blowout detector circuit.

Ishii et al. (US 5283553) disclose a switch with pre-alarm means.

Deng (US 5939991) disclose a circuit breaker with current level indicator.

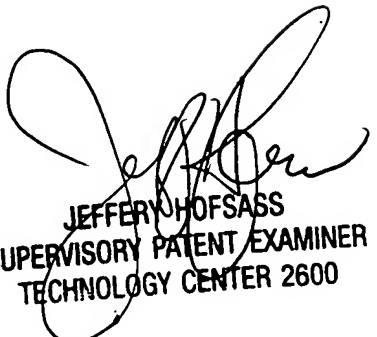
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lam P. Pham whose telephone number is 571-272-2977. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lam Pham
December 16, 2005.


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